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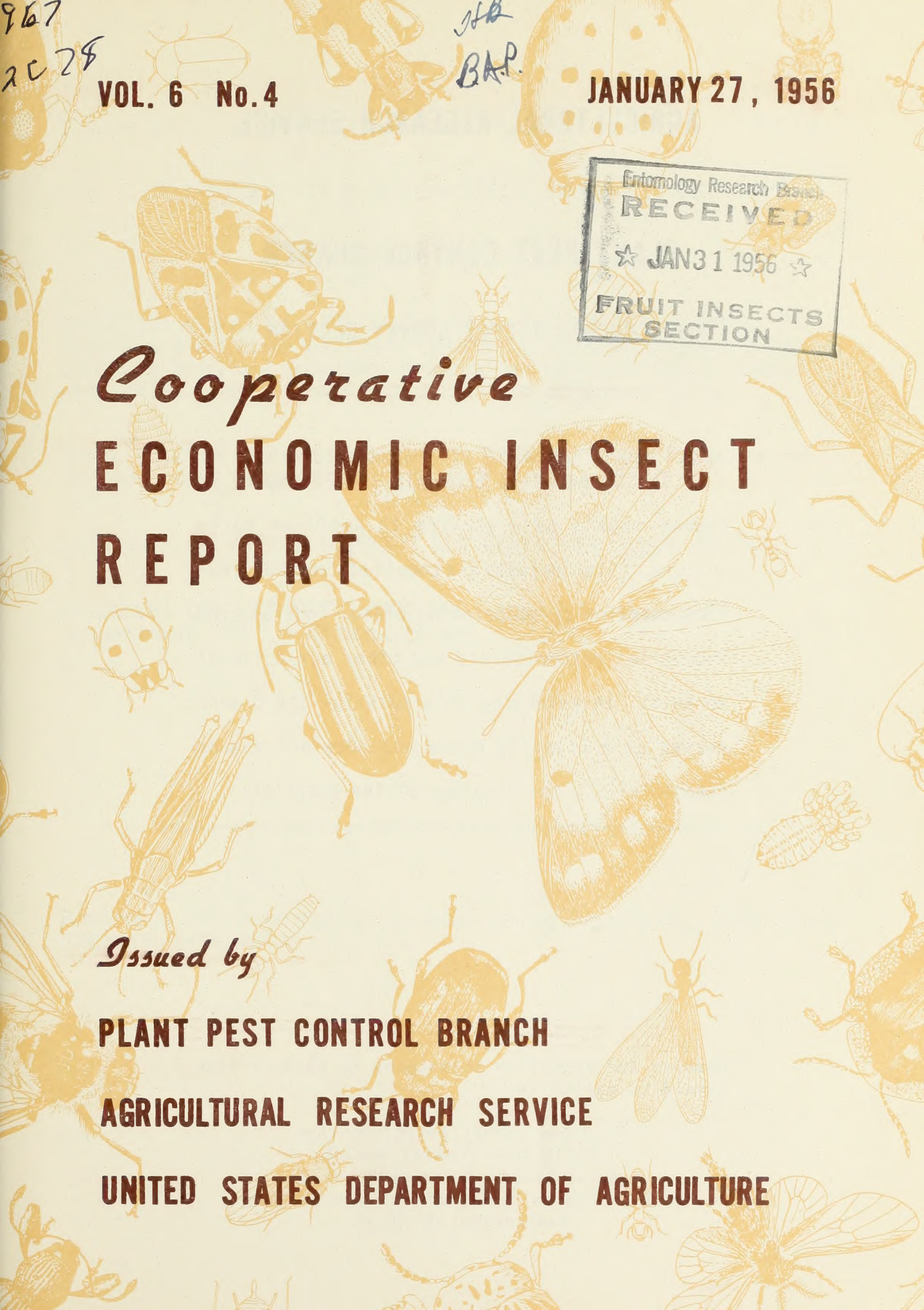

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Economic Insect Survey Section
Plant Pest Control Branch
Agricultural Research Service
United States Department of Agriculture
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Volume 6 January 27, 1956 No. 4

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

SPOTTED ALFALFA APHID infestations from light to heavy in Riverside and Tulare Counties, California; abundant in some fields in Maricopa and Pinal Counties, Arizona; and have reached economic proportions in some areas of southwestern Arkansas. (p. 53).

BOLL WEEVIL hibernation survey in Arkansas shows higher counts than last year. (p. 56).

Distribution of APPLE MAGGOT in United States (map). (p. 55).

SUMMARY OF INSECT CONDITIONS - 1955 - Arizona (p. 60), Louisiana (p. 65), Oklahoma (p. 68).

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Reports in this issue are for the week ending January 20, 1956, unless otherwise designated.

WEATHER FOR THE WEEK ENDING JANUARY 23, 1956

Precipitation occurred over the entire Nation, except in a few isolated areas, although generally light in the northern and western plains. This was the first week since early December that substantial precipitation fell in the South and southeastern portion of the Great Plains. Arctic air continued to drain into the north-central portion of the country from Canada. This cold air mass extended influences to the Gulf and the East Coast. Average temperatures departed from normal by -20° in eastern South Dakota and Nebraska, and by -18° at Wichita Falls, Texas. In the eastern part of North Dakota, the maximum daily temperatures were below zero most of the week. On January 18, Oberlin recorded the coldest Kansas temperature for this winter's season, a -12°. Sections of the country experiencing average temperatures above normal were the New England States and the region west of the Continental Divide. The highest average weekly departures were +14° at Caribou, Maine and a +13° at Grand Junction, Colorado.

Moderate to heavy precipitation again fell in the Northwest from the Pacific Coast eastward to the Continental Divide. Moderate to heavy falls were also recorded in a large area in the Southeast - westward to central Texas, northward to central Ohio, and along the East Coast up to southern Maine. Mobile, Alabama, and other Gulf coastal areas experienced heavy amounts on Wednesday and during the latter part of the period from Gulf frontal systems which developed between contrasting air masses. The central and western Great Plains drought areas received light to moderate snow with the passage of low centers which originated in the Pacific. This additional moisture should temporarily ease the deterioration of small grains.

Cold temperatures caused most of the precipitation in the northern and eastern two-thirds of the Nation to fall as snow and also caused the snow to be held on the ground throughout the period. In extreme northern areas the depth did not change substantially. However, the snow cover now extends farther south, reaching into New Jersey, West Virginia, Kentucky, Missouri and Kansas. The highest depth reported for non-mountainous areas is 26 inches at Duluth, Minn., while depths at some of the mountain stations in the West are as follows: 87 inches at Twin Lakes, Calif., 125 inches at Crater Lake, Oreg., and in Washington 199 inches at Mount Baker Lodge, 179 inches at Paradise Ranger Station (Mt. Ranier) and 156 inches at Stevens Pass. (Summary Supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

WINTER GRAIN MITES - TEXAS - Reports indicate a build-up in north Texas areas. (Cleveland, Ashdown, Daniels, Davis, Jan. 13).

EUROPEAN CORN BORER (Pyrausta nubilalis) - ARKANSAS - Examinations of corn fields known to be infested in Mississippi County showed 0-25 larvae per 100 stalks. About 20 percent of larvae were dead. (Warren, Jan. 14).

SPOTTED ALFALFA APHID - CALIFORNIA - Heavy infestation in 200 acres of alfalfa in the desert area of San Diego County. Widespread, but not serious, in other sections of county. About 220 acres treated in December. Populations trace to heavy in Riverside County and light to heavy in Tulare County. Light infestation near Panoche, San Benito County, November 9. First record for county. (Cal. Coop. Rept., Jan. 13). ARIZONA - Abundant in scattered alfalfa fields in Maricopa and Pinal Counties Jan. 13-14. Particularly abundant in some fields overplanted with barley being grazed by livestock. (Ariz. Coop. Rept.). ARKANSAS - Infestations in Red River bottoms of southwestern area have reached economic proportions. (Warren, Jan. 14).

LYGUS BUGS - ARIZONA - Abundant in one field at Goodyear, Maricopa County and adults present in many alfalfa fields in Maricopa and Pinal Counties. (Ariz. Coop. Rept.).

A LEAF ROLLER (Platynota stultana) - ARIZONA - Larvae active on alfalfa at Buckeye, Jan. 13. (Ariz. Coop. Rept.).

FALSE CHINCH BUG (Nysius ericae) - TEXAS - Heavy local infestations on alfalfa and wild mustard in Dimmitt County. (Richardson).

COWPEA APHID (Aphis medicaginis) - ARIZONA - Clustered on terminals of alfalfa at Eloy, Pinal County, Jan. 14. (Ariz. Coop. Rept.).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Adults active on alfalfa in area south of Phoenix, Jan. 14. (Ariz. Coop. Rept.).

TRUCK CROP INSECTS

BEET ARMYWORM (Laphygma exigua) - TEXAS - Light infestations on spinach in Winter Garden area. (Richardson).

APHIDS - TEXAS - Aphids, probably Rhopalosiphum pseudobrassicae, infestations light on turnips in Crystal City area. (Richardson).

POTATO APHID (Macrosiphum solanifolii) - DELAWARE - Injuring greenhouse tomatoes at Smyrna. (Milliron).

Sweetpotato Weevil Situation, December, 1955
During month, 408 new infestations found in the following areas: Alabama, 37, including the new counties of Houston and Geneva; Florida, 162, including new counties of Gulf, Franklin and Bay; Georgia, 63 including new county of Laurens; Louisiana, 97; and Mississippi, 49, including new county of Oktibbeha. During a three-month period of survey, the total number of infestations increased by about one-third. (Sweetpotato Weevil Prog. Rept.).

FRUIT INSECTS

Citrus Insect Situation, California, as of January 13
A MITE (Eotetranychus yumensis) light to heavy on tangerines and grapefruit in Coachella Valley, Riverside County. CITRICOLA SCALE light to medium on citrus in Tulare County. SOFT SCALE light to severe on citrus in Tulare County. Some parasites observed. COTTONY-CUSHION SCALE infestations light to heavy in citrus and on ornamentals in Tulare County. VEDALIA active some orchards. (Cal. Coop. Rept.).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Medium to heavy infestations in deciduous fruit orchards in Tulare County. (Cal. Coop. Rept., Jan. 13).

OLEANDER SCALE (Aspidiotus hederae) - CALIFORNIA - Medium infestations in olive orchards in Tulare County. (Cal. Coop. Rept., Jan. 13).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - Medium infestations in olive orchards in Tulare County. (Cal. Coop. Rept., Jan. 13).

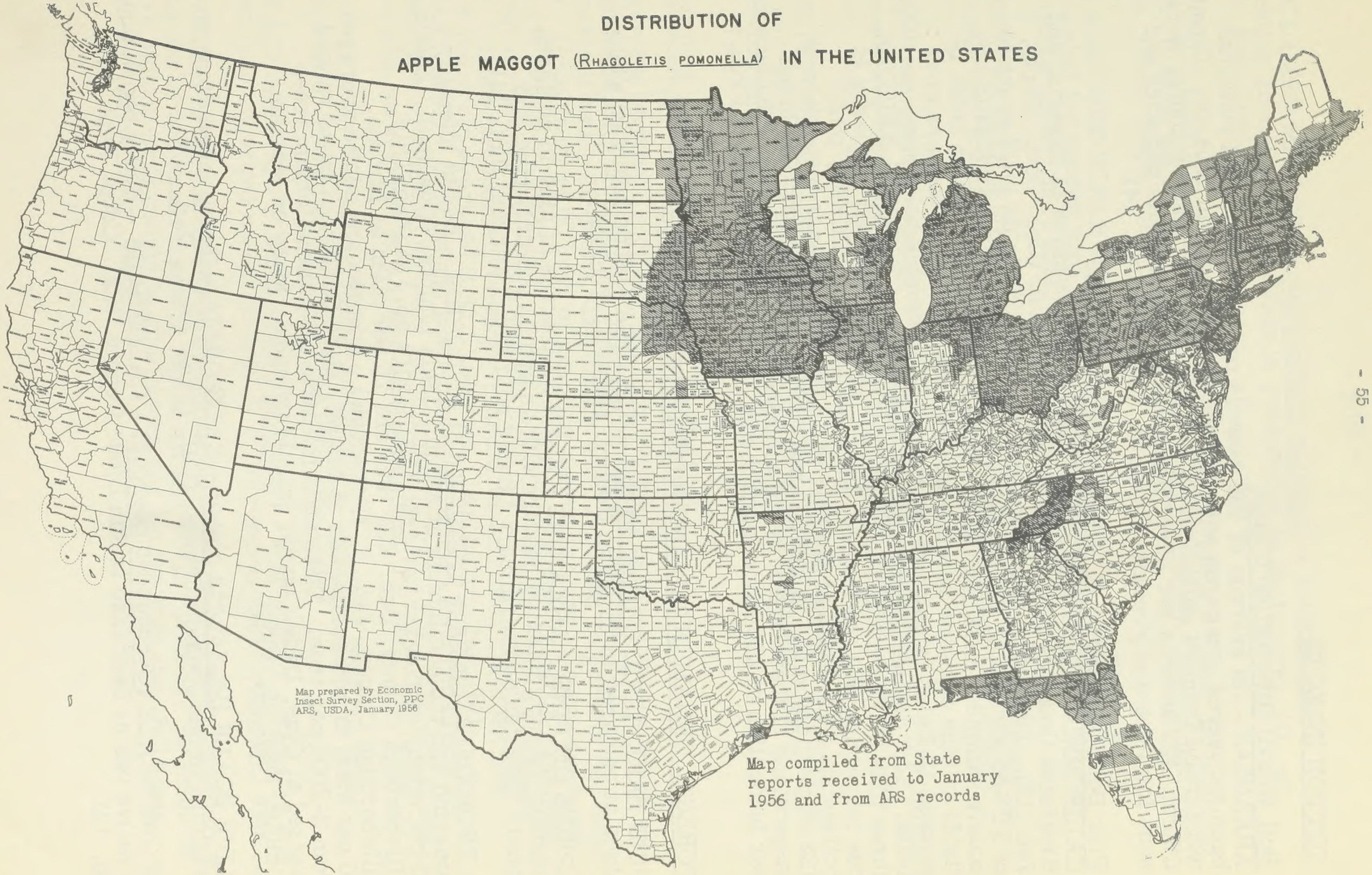
GRAPE MEALYBUG (Pseudococcus maritimus) - CALIFORNIA - Heavy infestations in vineyards in Tulare County. (Cal. Coop. Rept., Jan. 13).

AMERICAN PLUM BORER (Euzophera semifuneralis) - TEXAS - Light infestations on young peach trees in Stephenville area. (Denman). Light infestations on pecan trees in Glasscock County. (Werst).

Distribution of Apple Maggot

The map on the opposite page shows the known distribution of apple maggot or blueberry maggot (Rhagoletis pomonella) in the United States according to State reports and Agricultural Research Service records. In obtaining the data, an inquiry was sent to each State Clearing House. Replies have been received from 46 States. The distribution is based on actual records insofar as possible.

DISTRIBUTION OF
APPLE MAGGOT (*Rhagoletis pomonella*) IN THE UNITED STATES



Map prepared by Economic
Insect Survey Section, PPC
ARS, USDA, January 1956

Map compiled from State
reports received to January
1956 and from ARS records

COTTON INSECTS

Boll Weevil Hibernation Counts

ARKANSAS - An average of 866 weevils per acre of ground trash has been recovered compared with 224 weevils per acre in 1954-55. Counts were made from 84 samplings in four counties. Counts by county were Chicot, 423 weevils per acre; Hempstead, 2688 weevils per acre and none for Pope and Franklin Counties. (Warren, Jan. 14).

Pink Bollworm Situation, January 1-15

CALIFORNIA - Inspection of 4301 bushels of gin trash in Imperial and Riverside Counties failed to show an infestation. (Cal. Coop. Rept., Jan. 13). Inspection of surface debris from 129 fields in 19 counties of TEXAS showed 42 fields infested. No live bollworms found in one county samples in OKLAHOMA. Bolls from standing stalks from 17 fields of nine counties in northeastern area and two of western area showed 12 fields infested at the rate of 8.5 live pink bollworms per 100 bolls. Lint cleaner inspections showed negative results in ARIZONA, three pink bollworms in one inspection in Dona Ana and one larva in one inspection in Luna County, NEW MEXICO. In TEXAS, pink bollworms were found at the rate of 19 per lint-cleaner inspection of 123 inspections made in west Texas and the plains area. Gin stand inspections of these areas in ten counties averaged seven pink bollworms per inspection of 210 inspections made. (Pink Bollworm Cont. Prog.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

PINE BARK APHID (Pineus strobi) - VIRGINIA - Eggs heavy on white pines at one area in Franklin County. (Rowell, Tucker).

APHIDS ON PINE - ARKANSAS - About 8000 acres of pine in northern Johnson County, infested heavily with an aphid, possibly pine leaf aphid. Needles and terminals gummy with sap. (Warren, Jan. 14).

A THORNBUG (Umbonia crassicornis) - FLORIDA - Adults infesting tamarind and pithecellobium at Miami, Dade County. (Dowling). Adults, 50 per stem, on powder puff tree (Calliandra sp.) at Plant City, Hillsborough County, Dec. 20, 1955 and 75 per stem at Limosa, Hillsborough County, Jan. 3. (Pettigrew). Nymphs and adults averaged 50 per stem on pithecellobium at Miami, Dade County. Counts ranged from 2-2000 per tree. Thousands infesting all pithecellobium trees checked at Ojus, Dade County, mostly nymphs. Many on albizzia. (Daigle, Dec. 29, 1955).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Heavy infestations on hawthorn in San Joaquin County. (Cal. Coop. Rept., Jan. 13).

AN OAK SCALE (Cerococcus quercus) - CALIFORNIA - Heavy populations on native oak at Descanso in San Diego County. (Cal. Coop. Rept., Jan. 13).

CYCLAMEN MITE (Steneotarsonemus pallidus) - MARYLAND - Infesting annual garden balsam in greenhouse in Baltimore. (U. of Md. Ent. Dept.).

A SCALE (Asterolecanium arabidis) - CALIFORNIA - Heavy infestations on a pittosporum in three areas of San Joaquin County. Hosts destroyed. (Cal. Coop. Rept., Jan. 13).

AN ARMORED SCALE (Chrysomphalus lilacinus) - CALIFORNIA - Recorded for second time in San Diego County and in California. Found on native oak. (Cal. Coop. Rept., Jan. 13).

A PSYLLA (Psylla uncatoides) - CALIFORNIA - Heavy populations on albizzia and acacia in some San Diego nurseries. (Cal. Coop. Rept., Jan 13).

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - CALIFORNIA - Some heavy infestations on ornamentals in San Joaquin County. (Cal. Coop. Rept., Jan. 13).

A SPITTLEBUG (Clastoptera arizonana) - CALIFORNIA - Feeding on paloverde in cities in San Diego County. Some trees with heavy infestations. (Cal. Coop. Rept., Jan. 13).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS - OKLAHOMA - Of 176 head of livestock inspected at Oklahoma City stockyards, January 20, 55 percent had no grubs, 9 percent had 1-10 grubs, 22 percent had 11-20 and 14 percent had over 20. Grub count of 60 head of yearling steers in Osage County averaged 22 per animal. (Coppock). ARKANSAS - In 384 head of cattle examined from six counties, grubs averaged 8.48 per animal. Bulls averaged 18.8 grubs per animal, cows averaged 5.02 and steers and heifers 1-2 years old averaged 9.11. (Warren, Lancaster, Jan. 14). MARYLAND - Of 60 young beef animals examined on three farms in Montgomery County, 49 were found infested with 1-16 grubs per animal, and with an average of 4.0 per infested animal. (U. Md. Ent. Dept.).

CATTLE LICE - ARKANSAS - Infestations generally light but some reports of heavy infestations. (Warren, Jan. 14).

BLACK-LEGGED TICK (Ixodes scapularis) - ARKANSAS - Females and partially engorged males on dogs in south central area. (Warren, Jan. 14).

HOUSE FLIES - ARIZONA - Flies, mainly Musca domestica, population indices of two small towns in Maricopa and Pinal Counties: Average of five highest grill counts in nine blocks for the week of Jan. 8-14 was 31.4. (Ariz. Coop. Rept.).

STORED PRODUCTS INSECTS

KHAPRA BEETLE (*Trogoderma granarium*) - CALIFORNIA - Light infestation Dec. 15, 1955, in a warehouse and milling refuse in Napa, Napa County. First record for county. (Cal. Coop. Rept., Jan. 13).

A GRAIN BEETLE (*Aphanotus destructor*) - CALIFORNIA - Found in flour at National City, San Diego County, Jan. 3. Second report for California. (Cal. Coop. Rept., Jan. 13).

AN OTITID (*Chrysomyza demandata*) - OKLAHOMA - Larvae being reported from trench silos in many sections of the State. Thousands of flies have emerged from a cubic foot of silage. (Howell).

BENEFICIAL INSECTS

LADY BEETLES - CALIFORNIA - Abundant coccinellids, mostly *Hippodamia convergens* in desert alfalfa fields of San Diego County but unable to handle aphid populations. (Cal. Coop. Rept., Jan. 13). ARIZONA - *H. convergens* abundant in only a few alfalfa fields in Maricopa and Pinal Counties, Jan. 13-14. (Ariz. Coop. Rept.).

LACEWINGS - ARIZONA - In complex with nabids, the most common beneficial insects in alfalfa fields in Maricopa and Pinal Counties, Jan. 13-14. (Ariz. Coop. Rept.).

AN ANTHOCORID (*Xylocoris flavipes*) - ARIZONA - Nymphs and adults in barley infested with khapra beetle at Phoenix. Found at depths of 12 feet and 25 feet from the walls. (Det. R. I. Sailer) (Ariz. Coop. Rept.).

A BETHYLID (*Cephalonomia waterstoni*) - ARIZONA - In complex with a pteromalid (*Anisopteromalus calandrae*) taken deep in milo bin at Phoenix. Mixed infestation of grain pests so undetermined whether parasites of khapra beetle. (Ariz. Coop. Rept.).

MISCELLANEOUS INSECTS

PAVEMENT ANT (*Tetramorium caespitum*) - DELAWARE - Annoying in office building utility room at Dover in early January. (Milliron).

Light Trap Collections

TEXAS - (College Station, 1/16-19): *Pseudaletia unipuncta*, 57; *Agrotis ypsilon* 2; *Feltia subterranea*, 2. ARKANSAS (Stuttgart, Dec. 8, 1955 - Jan. 1, 1956): *P. unipuncta* 23; *A. ypsilon*, 21. (Varner, Dec. 8, 1955 - Jan. 4, 1956): *P. unipuncta*, 16; *A. ypsilon*, 23; *Heliothis zea*, 11. ALABAMA (Auburn, 1/14-20): *P. unipuncta*, 1.

RECENT INTERCEPTIONS AT PORTS OF ENTRY

Of unusual interest was the recent interception of 2 living lepidopterous larvae, identified as Glyphodes pyloalis (Wlk.) on mulberry leaves in airplane baggage from Japan at Honolulu T. H. (Crockett). This insect has been reported injurious to mulberry in parts of the Orient. In Japan and Formosa, it is considered one of the most serious pests of mulberry. It is said to occur also in Burma, China, Ceylon and India. Observations on its life history in Japan indicate hibernation occurs as full-grown larvae in cocoons in soil or crevices in the bark. Adults appear in May. Eggs are deposited on lower surfaces of leaves. The eggs hatch in 5 to 6 days. The young larvae feed at first on the under side of the leaf, then fold the leaf. The number of generations a year reported varies from four in Japan to ten in Formosa.

This appears to be the first interception record for G. pyloalis. It is not known to occur in the United States. (Compiled - Plant Quarantine Branch).

SUMMARY OF INSECT CONDITIONS - 1955

ARIZONA

Reported by F. G. Werner

Cereal and Forage Insects

SPOTTED ALFALFA APHID during 1955 had reached many of the more remote parts of the State, so that it now can probably be found wherever alfalfa is grown. Locations have been added in Yavapai County, Mohave County, Coconino County, Navajo County, Gila County and Greenlee County. In some of these areas it has caused severe damage to limited plantings. In the principal growing areas the general picture early in the season was of a fairly static population, followed by general and continued increase from mid-March until hot weather set in, alates starting to appear in numbers by mid-March. A general, rapid decrease was reported in these areas between early May and early July. This decrease coincided with the development of large populations of CONVERGENT LADY BEETLE (Hippodamia convergens). In all areas scattered light to medium infestations occurred throughout the summer, and particularly in the higher elevations of Cochise County. Increase in the fall seems again to have been related to lowering temperatures. First reports by counties of high populations are: Greenlee, Sept. 10, Pima, Sept. 30, Maricopa, Oct. 10-20, Yuma, Oct. 15. No parasites were observed on this aphid in 1955. Collops adults, lacewing larvae, syrphid larvae and a predaceous mite were observed feeding on the aphids but apparently never became abundant enough to control it effectively. Late in the summer fungi were reported from Yuma and Maricopa Counties and these apparently were a factor in keeping populations down. Hippodamia convergens appears to be the most important predator and it seems able to reduce a heavy infestation when the weather is warm enough for it to develop rapidly.

PEA APHID (Macrosiphum pisi) on alfalfa in general seems still to be over-shadowed by the spotted alfalfa aphid. Some damage was reported at Yuma April 15 and populations occurred on alfalfa in about equal numbers with spotted alfalfa aphid at Marana September 29. Possibly, the less striking damage caused by this species is now being overlooked. EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) was rare or absent in general on alfalfa in the Yuma area in 1955. In Maricopa County the infestation was quite heavy and general, averaging 1 to 2 per sweep in heaviest fields from about March 14 to April 1. A SERPENTINE LEAF MINER (Liriomyza sp.) caused unusually heavy and extensive damage to alfalfa in Yuma, Maricopa and Pima Counties. Damage in the Salt River Valley is reported as the most severe in 21 years of observation. LEPIDOPTEROUS LARVAE (alfalfa caterpillar, Prodenia sp., salt-marsh caterpillar and Platynota stultana) combined were worse on alfalfa in the Salt River Valley than in many years, in August particularly. Alfalfa caterpillar was also serious at Yuma and in Pinal and Pima Counties. Platynota stultana was especially abundant in the western part of the Salt River Valley and at Theba; some fields being defoliated.

The same insect was abundant in some parts of the Yuma area toward the end of May and became abundant enough in late summer to stop a few growers from making a seed crop. CORN EARWORM (*Heliothis zea*) was reported as severe on 100 acres of alfalfa at Bowie June 27, at 20 per 100 sweeps in Graham County June 10 and 45 per 100 sweeps in Maricopa County August 26. What appears to be a related species (*Heliothis* sp.), like the one reported from cotton in Pima County, was very abundant on alfalfa at Yuma, and this or the true bollworm averaged up to 2 per sweep early in October, particularly in seed fields. CLOVER SEED CHALCID (*Bruchophagus gibbus*) adults began to emerge from 1954 alfalfa seeds at Yuma April 17, later than in 1954. Seed samples indicated a very high infestation at Yuma July 15 and 3 to 5 per sweep occurred in late seed fields Aug. 24. Large numbers again appeared in seed samples during the first 2 weeks of October. In general the damage to the seed crop at Yuma seems to have been less than last year, possibly due to a buildup of parasites or to the heavier insecticide program necessitated by the spotted alfalfa aphid and stink bug infestations. STINK BUGS in general did not reach high populations in alfalfa areas in 1955. However, SAY STINK BUG (*Chlorochroa sayi*) became quite abundant at Yuma early in June on maturing border plants and was a serious pest of seed alfalfa during most of the season, a peak of 4 to 5 per sweep being reached in early October in a few fields. A periodic insecticide program was necessary in this region for seed production.

LYGUS BUGS (mainly *Lygus hesperus*) became very abundant on alfalfa in western Maricopa County by April; 7 per sweep in one field. Heavy populations remained at least into August. In the Yuma area lygus bugs were less abundant than usual in June and built up less than normally during the season. Large numbers were reported from the Safford area early in June and from Eloy and Coolidge toward the end of September. THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) was reported in subnormal numbers on alfalfa from Yuma, Maricopa, Pinal and Pima Counties in June. There was a sharp increase in all areas following the start of summer rains, with populations remaining high into September and October. They ended up the summer season more abundant than usual, with high counts of 6 to 10 per sweep. A complex of GRASSHOPPERS was abundant on alfalfa at Theba at the end of September but there were no other reports of serious numbers of grasshoppers on alfalfa during the year. CLOVER MITE (*Bryobia praetiosa*) and lesser numbers of BROWN WHEAT MITE (*Petrobia latens*) reached economic numbers in some alfalfa on Yuma Mesa early in April. Heavy damage was reported from one or both species at Hassayampa April 22, and scattered heavy infestations of brown wheat mite in the Salt River Valley in March. ENGLISH GRAIN APHID (*Rhopalosiphum granarium*) occurred in scattered heavy infestations in Maricopa and Pinal Counties on wheat, barley and oats. CORN LEAF APHID (*Rhopalosiphum maidis*) in general was light on sorghum in 1955. SOUTHWESTERN CORN BORER (*Diatraea grandiosella*) was quite abundant on corn in the Salt River Valley during June and into the early part of July; reports of as many as 1/3 of the stalks in a field infested. LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) apparently built up on sorghum in the Salt

River Valley; one report of 10 percent of the stalks infested. CORN EARWORM (*Heliothis zea*) was normally serious on corn and sweet corn. A heavy infestation is the rule rather than the exception. A complex of LEPIDOPTEROUS LARVAE (*Heliothis* sp. and *Laphygma frugiperda*) was reported as damaging whorls of sweet corn in Avra Valley in early June. This was an unusually heavy infestation. DESERT CORN FLEA BEETLE (*Chaetocnema ectypa*) occurred in scattered light to medium infestations on corn and sorghum in Yuma and Maricopa Counties.

Range Insects

A WHITE GRUB (*Phyllophaga*) caused damage to grass on 10,000 acres of range land at Seligman. GRASSHOPPERS (*Melanoplus mexicanus* and *M. bivittatus* and *Camnula pellucida*) were in local outbreak numbers in the Alpine-Nutriosa area in mid-June, with about 100 acres severely infested. *Trimerotropis pallidipennis pallidipennis* averaged 10-15 per square yard on at least 2000 acres near Scottsdale April 15.

Fruit Insects

A MITE (*Eotetranychus yumensis*) was abundant on grapefruit at Yuma last of February; noticeable damage at many groves April 10; general on Yuma Mesa May 4. On July 8 citrus, especially lemon, showed effects of a heavy infestation at Yuma. THRIPS were light on citrus in Yuma area in April but became more abundant in some groves in May and again in October. At Mesa populations showed a sharp increase in early April, with a gradual decrease during summer. GREEN PEACH APHID (*Myzus persicae*) was light to very heavy on citrus at Mesa during first part of May, apparently the worst infestation in many years. Other species on citrus at the same time were *Aphis medicaginis* and *A. gossypii*. COTTONY-CUSHION SCALE (*Icerya purchasi*) developed into a severe local infestation at Yuma during September and October but was readily controlled with vedalia beetles. CALIFORNIA RED SCALE (*Aonidiella aurantii*) was found in light to moderate dooryard infestation at Glendale in March, a carryover from an infestation during 1953-54. CLOVER MITE (*Bryobia* sp.) was severe on all unsprayed apple trees in Oak Creek Canyon during April and May and general in Apache County during June, though often not in damaging numbers. WOOLLY APPLE APHID (*Eriosoma lanigerum*) occurred on most apple trees from Elfrida to Willcox in June. This is the first year this species has been seen in the area. SPIDER MITES were average to severe in Oak Creek Canyon on apples in July. Cool weather kept the populations down in general. BLACK-MARGINED APHID (*Monellia costalis*) reached normally high populations in pecan in Maricopa County in October, causing early defoliation.

Truck Crop Insects

APHIDS (*Macrosiphum barri* and *Myzus persicae*) were very numerous on lettuce in the Salt River Valley in early March. GREEN PEACH APHID occurred on 10 percent of lettuce plants in Yuma Valley March 1. CABBAGE LOOPER (*Trichoplusia ni*) was moderate on lettuce at Phoenix February 25, light to heavy in the Salt River Valley in early April and continued in lesser numbers into May. This insect was severe in all untreated lettuce fields in Maricopa County again in late September and severe at Glendale in early October. CABBAGE LOOPER was heavy in all watermelon fields in east Mesa area July 22; scarring fruit. YELLOW-STRIPED ARMYWORM (Prodenia sp.) was moderate to heavy on 100 acres of lettuce and other truck crops at Phoenix and Mesa early in September. BEET LEAFHOPPER (Circulifer tenellus) was reported in light numbers in cantaloups in Salt River Valley, March 31; some curly top symptoms showing April 29. MELON APHID (Aphis gossypii) built up on cucurbits in the Yuma area in April but was low by mid-June. A LEAF MINER (Liriomyza sp.) was more severe on cantaloup in Yuma and Maricopa Counties than in 1954. Most of the crop in Maricopa County was injured by June 17, some severely. Also caused extensive damage to cantaloup in the Yuma area by July 8. A LEAF ROLLER (Platynota stultana) badly scarred honeydews in one area at Phoenix, causing many culls. THRIPS were economic in some onion fields in Maricopa County in March and April and very heavy in all fields in Greenlee County in mid-June. BEET ARMYWORM (Laphygma exigua) TOMATO PINWORM (Keiferia lycopersicella) and HORNWORM (Protoparce) occurred in damaging numbers on 700 acres of tomatoes at Bowie during late September and early October. The beet armyworm bored into green fruit.

Cotton Insects

THRIPS were reported generally on cotton from about first of May with highest populations near end of month, in all cotton areas. A decrease came in Maricopa, Pinal and Pima Counties in mid-June. Damage was light in the Salt River Valley, with some fields not treated. The heaviest populations were reported from Buckeye, 15-30 per plant in late May. Damage was still reported from Cochise County where chemical control had not been used up to the end of June. A WHITEFLY (prob. Trialeurodes abutilonea) was reported as numerous in many cotton fields up to early July. APHIDS (Aphis gossypii and A. medicaginis) were reported on cotton from Yuma, Maricopa, Pinal and Pima Counties early in the season, with a rather rapid decline toward the end of May in Pinal and part of Maricopa County with another buildup in Pima and Maricopa Counties from late June into mid-August. Mid-Season and General: MITES (mainly Tetranychus spp.) infestation were scattered on cotton, sometimes heavy, in Pinal and Pima Counties from late April until the beginning of the summer rainy period. Infestations were generally low to very low in Maricopa County. MIRIDS (Lygus hesperus, Spanagonicus albofasciatus, et al) very low on cotton in Pima, Pinal and Maricopa Counties in early June. Reported up to 25 per 100 sweeps at Roll, Yuma County, June 10. A sharp increase was reported in Maricopa, Pinal and Pima Counties from June 17 to 24; remaining high in most areas until early August. Very heavy populations developed in Buckeye area in mid-July with moderate numbers in Cochise and Graham Counties during this period. After about the end of July Lygus took second place to bollworm as the major pest of cotton. Spanagonicus albofasciatus was above normal in Pinal County, and apparently also in Maricopa County toward the end of June. SUPERB PLANT BUG

(*Adelphocoris superbus*) was moderate to heavy on cotton in Greenlee County. STINK BUGS remained low throughout the season on cotton in Maricopa, Pinal and Pima Counties and in other areas, except for Greenlee County, which reported moderate to heavy infestations early in August. A LEAF ROLLER (*Platynota stultana*) caused damage to scattered cotton fields. COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) caused scattered damage in Yuma County. The heavily infested fields were mostly associated with stub cotton fields. BOLLWORM (*Heliothis zea*) was generally low in all cotton areas until summer rains, although earlier than usual damage was reported at Sahuarita June 10. About mid-July this became the most important pest of cotton and this condition continued for rest of season. A PHALAENID LARVA (*Heliothis* sp.) appeared on cotton in the Sahuarita area early in June. This larva feeds on leaves, producging damage much like that of cabbage looper. CABBAGE LOOPER (*Trichoplusia ni*) was reported in small numbers on cotton from Yuma County to Pima County with occasional fields heavily infested, from late May to early August. BEET ARMYWORM (*Laphygma exigua*) built up to moderate numbers in many cotton fields in Maricopa, Pinal and Pima Counties during the first half of July. YELLOW-STRIPED ARMYWORM (*Prodenia* sp.) built up to fair numbers on cotton in the Phoenix area during the last part of August, but decreased early in September. A LEAF MINER (*Liriomyza* sp.) was more abundant than usual on cotton in Maricopa, Pinal, Pima, Graham and Cochise Counties, occasionally serious in scattered areas from mid-June to early August. THURBERIA WEEVIL (*Anthonomus grandis thurberiae*) reached an average population where 17 percent of the bolls had some damage in the upper Santa Cruz Valley, Santa Cruz County, by November.

Insects Affecting Sugar Beet Seed Fields

LYGUS BUGS (*Lygus hesperus* and *L. lineolaris*) were lighter in sugar beets in the Salt River Valley during April than in many years. YELLOW-STRIPED ARMYWORM (*Prodenia* sp.) was general in all sugar beet fields in Maricopa County during early September. BEET ARMYWORM (*Laphygma exigua*) was unusually severe on sugar beet seedlings at Phoenix during mid-September.

Forest, Ornamental and Shade Tree Insects

COTTONY-CUSHION SCALE (*Icerya purchasi*) was heavier than usual in Maricopa County in July and in Pima County in March. Vedalia beetles were slow in developing. ELM LEAF BEETLE (*Galerucella xanthomelaena*) became a pest in Phoenix early in April and continued most of the summer, on Chinese elm. ARGENTINE ANT (*Iridomyrmex humilis*) was found in one location at Phoenix early in May.

Stored Products Insects

KHAPRA BEETLE (*Trogoderma granarium*) is now covered by quarantine and eradication regulations and an eradication program is now in progress.

Insects Affecting Man and Animals

AN EYE GNAT (Hippelates collusor) became annoying in citrus groves at Yuma by end of March. CONENOSE BUGS (Triatoma sp.) caused severeal complaints from Pinal, Maricopa and Yavapai Counties, because of abundance and several cases of bites. BROWN DOG TICK (Rhipicephalus sanguineus) was more than usually abundant in yards and kennels in Maricopa, Pinal and Pima Counties toward the end of the summer. POULTRY BUG (Haematosiphon inodorus) was reported biting people in a school 30 miles east of Kingman in March. FLIES (mainly Musca domestica) were surveyed in 2 small towns in southeastern Maricopa and northwestern Pinal Counties during the season. Peak populations occurred late in August but a general moderate level was maintained all season.

Miscellaneous Insects

FIELD CRICKET (Acheta assimilis) became very abundant from Casa Grande, west to Yuma in mid-August. WHITE-LINED SPHINX (Celerio lineata) was very abundant at Yuma and in Pima County.

SUMMARY OF INSECT CONDITIONS - 1955

LOUISIANA

Reported by A. D. Oliver

Cereal and Forage Crop Insects

ARMYWORM (Pseudaletia unipuncta) populations were heavy in small grains along the upper Red River Valley and the upper Mississippi Delta in late April and early May with some fields being treated. Peak moth flights occurred at the Curtis and St. Joseph light traps during late August and early September. FALL ARMYWORM (Laphygma frugiperda) infestations did not develop in rice this year as in past years. Some infestation in fall-planted grains in West Feliciana, East Feliciana, St. Helena, Livingston, Tangipahoa, Washington and St. Tammany Parishes required control measures to prevent severe damage. RICE WATER WEEVIL (Lissorhoptrus simplex) and RICE STINK BUG (Solubea pugnax) infestations were very light, generally, over the entire rice belt with no control measures being needed. VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) infestations were severe in soybeans and alfalfa during August and September and apparently no control measures were applied. VARIEGATED CUTWORM (Peridroma margaritosa) infested several fields of white clover in Jefferson Davis and Acadia Parishes doing considerable damage, but no control measures were applied. Very heavy populations of the THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) and PEA APHID (Macrosiphum pisi) existed in alfalfa during most of the summer with no control measures being applied. Several severe infestations of GREENBUG (Toxoptera graminum) were found on barley and oats during April and

May in north Louisiana. These infestations were subdued by parasites. Very heavy infestations of A LEGUME MITE (*Petrobia apicalis*) existed in white clover over most of the State through April of 1955. The GRAPE COLASPIS (*Colaspis* sp.) was generally numerous in legume crops. The SOUTHWESTERN CORN BORER (*Diatraea grandiosella*) was found in Bossier, Desoto and Caddo Parishes for the first time in 1955. One field had up to 40 percent of stalks infested. SPOTTED ALFALFA APHID was found on alfalfa in Bossier, Caddo and Natchitoches Parishes for the first time also. This aphid is causing grave concern due to its destructive potential to alfalfa. A similar aphid YELLOW CLOVER APHID (*Pterocallidium trifolii*) was found on red and white clover in Bossier, East Baton Rouge and West Baton Rouge Parishes. SORGHUM MIDGE (*Contarinia sorghicola*) greatly reduced the seed maturity of grain sorghum in north Louisiana. PINK CORNWORM moderately infested sorghum heads over the entire State.

Sugarcane Insects

The SUGARCANE BORER (*Diatraea saccharalis*) presented a very serious problem in 1955. A heavy carryover of overwintering borers as a result of a mild winter was the principal contributing factor to the heavy infestations this past year. Lack of an extensive control program, cultural, biological and chemical, resulted in heavy losses of cane to the farmer. The late spring colds caused borer infestations to be late and erratic to the extent that many farmers figured that control measures were not worthwhile. SUGARCANE BEETLE (*Euetheola rugiceps*) infestations were comparatively light over the cane belt.

Truck Crop Insects

The VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) was a major pest on peppers, tomatoes, potatoes and strawberries in the southeastern section of Louisiana. Damage was very extensive in several areas, but control measures were effective when applied. CABBAGE LOOPER (*Trichoplusia ni*)inflicted considerable damage to cabbage, broccoli and cauliflower in St. John the Baptist, Plaquemine and St. Bernard Parishes. SWEETPOTATO WEEVIL (*Cylas formicarius elegantulus*) infestations were generally light with a few localized severe infestations. Damage to sweetpotatoes by soil insects was generally high over the sweetpotato belt where control measures were not applied. A NITIDULID (*Lobiopa insularis*) caused grave concern again during the year in the strawberry belt. This beetle was found in fields two weeks before any ripe strawberry fruits occurred. Its presence was conducive to the early closing of the cold packing sheds. The SWEETPOTATO FLEA BEETLE (*Chaetocnema confinis*) began to occur on volunteer sweetpotato plants in early spring and very heavy infestations occurred on foliage during mid and late seasons. SOUTHERN GARDEN LEAFHOPPER (*Empoasca solana*) populations were heavy in sweetpotatoes during mid and late season. YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) severely damaged sweetpotato foliage during mid season. Several moderate to severe infestations of the TURNIP APHID (*Rhopalosiphum pseudobrassicae*) existed on turnips in St. John the Baptist and St. Charles Parishes. BLACK PECAN APHID (*Melanocallis* *caryaefoliae*) and FALL WEBWORM (*Hyphantria cunea*) infested pecan trees over most of the State causing defoliation early in the season. One very severe infestation of LESSER PEACH TREE BORER (*Synanthedon pictipes*) was found in Claiborne Parish. These borers entered the trees through wounds caused by tractor equipment while plowing. PURPLE SCALE (*Lepidosaphes beckii*), SOFT SCALE (*Coccus hesperidum*) and CITRUS RUST MITES (*Phyllocoptruta oleivora*) heavily infested oranges and satsumas in Plaquemine and St. Bernard Parishes where control measures were not used.

Cotton Insects

BOLL WEEVIL (*Anthonomus grandis*) infestations were high, most of the season, over the State. Many heavy infestations were difficult to reduce with insecticides due to a high degree of resistance developed by the boll weevil in several sections of the State. Boll weevil infestations caused a great reduction in acreage yield for many farmers where insecticides failed to reduce the populations. A boll weevil hibernation survey recently completed indicated that a greater number of weevils went into hibernation this winter than has been the case in the past 19 years. BOLLWORM (*Heliothis zea*) infestations were light throughout the State. Moth activity was moderate in the Bossier City and St. Joseph areas in mid season. COTTON APHID (*Aphis gossypii*) infestations were heavy and spotty over most of the State. Build-ups of cotton aphid following the use of calcium arsenate brought about populations which were unusually difficult to control. SPIDER MITE (*Tetranychus* sp.) infestations were unusually light and unimportant. BROWN COTTON LEAFWORM (*Acontia dacia*) specimens were taken in a light trap at Natchitoches, Louisiana during early season. Larvae were found on cotton in Bossier, Natchitoches and Caddo Parishes. One infestations severely damaged seedling cotton in Natchitoches Parish. No infestations occurred in late season as last year.

Insects Affecting Man and Animals

MOSQUITOES (mainly *Aedes* sp.) were much more abundant than usual over the entire State. A heavy outbreak which occurred during May and June seriously hindered farm labor and livestock activity. SCREW-WORM (*Callitroga hominivorax*) outbreaks were mild with several light infestations in the southern part of the State during July and August. HORSE FLIES (primarily *Tabanus* sp.) greatly hindered livestock activity over the southern area during June, July, August and September. Very heavy populations of HORN FLY (*Siphona irritans*) existed throughout the summer. Several heavy infestations of COMMON CATTLE GRUB (*Hypoderma lineatum*) occurred during the winter and early spring on several types of cattle.

Shade Tree Insects

A light infestation of the ELM LEAF BEETLE (*Galerucella xanthomelaena*) occurred in Winn Parish in 1955, the first known in this State.

Stored Grain Insects
A survey was made during the fall to determine the extent of insect damage to stored grains. Rice, at this time, was practically free of insect injuries. The ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) and the RICE WEEVIL (Sitophilus oryza) were the two threatening insects where sanitation practices were not initiated. For the stored-corn insect survey the State was divided into seven major ecological areas. Samples consisting of 20 ears each were taken from approximately 115 cribs. Corn in the southwestern area was most severely injured with many samples being 75-95 percent destroyed by RICE WEEVIL. Other areas listed according to severity of corn damage were the areas east of Baton Rouge, the Mississippi River Valley, Red River Valley, hill section of north Louisiana and the Ouachita Valley. Other insects contributing to the corn damage in order of severity were flour beetles, pink cornworm, Angoumois grain moth, saw-toothed grain beetle and the corn earworm.

SUMMARY OF INSECT CONDITIONS - 1955

OKLAHOMA

Compiled by Stanley Coppock, Jr.

Cereal and Forage Insects

SPOTTED ALFALFA APHID was very abundant on alfalfa in the southern part of the State during the fall of 1954 and survived the winter in fairly large numbers. By the latter part of March, 1955, severe damage was noted in the south central area. Within a month severe damage was reported from most alfalfa-growing sections of the State. Temperatures as low as 6°F. above zero did not halt its spread. Very heavy infestations were present throughout April and May in most areas and caused extensive damage in parts of the southern and central area. Following heavy rains in June populations were reduced sharply followed by a build-up in July and August for most areas. Heavy general rains in September reduced populations in most areas followed by a rapid build-up in October and November. Severe damage to newly-planted alfalfa in the fall was reported from isolated fields in most areas. Fairly large winter populations were present in all alfalfa producing areas of the State in spite of unseasonably cold temperatures. These populations would seem to indicate an early, serious infestation of alfalfa over the State in the spring of 1956. BROWN WHEAT MITE (Petrobia latens) populations were unusually heavy in the north central and northwestern areas in the spring. Injury was intensified because of freeze injury and severe drought damage. Spraying gave fair to good results in most areas. Populations were present in most fields of the western part during the fall and winter of 1955. FALL ARMYWORM (Laphygma frugiperda) infestations resulted in severe local damage to newly-planted alfalfa and small grains in the southwestern, central, and northwestern areas. Loss of ears of late-planted corn as a result of girdling of shanks by larvae was noted in some areas. A severe outbreak of GRASSHOPPERS in the western part of the State occurred in the spring and early summer of 1955. Over 150,000 acres of range land were sprayed in the Cooperative-State-Federal Spray Program. Also, about 511,000 additional acres were sprayed on an individual basis. It was estimated that about 1,500,000 acres of range land and 3,000,000 acres of crop land were infested. Good control was reported from spraying in most areas. Major species included *Melanoplus mexicanus*, *M. differentialis*, *M. bivittatus*, *M. femur-rubrum*, and range species: *Aulocara elliotti*, *Ageneotettix deorum*, *Phlibostroma quadrimaculata* and *Boopedon nubilum* in certain areas. Fall populations of *M. mexicanus* did damage to margins of newly-planted fall grains in the panhandle counties. CORN EARWORM (*Heliothis zea*) was found infesting grain-sorghum heads in most areas, and alfalfa in many northern and western counties. Populations in sweet corn were heavy but appeared to be below those usually occurring on this crop. Spring populations of CORN LEAF APHID (*Rhopalosiphum maidis*) were present throughout most areas on sorghums and small grains, especially barley. Heavy fall populations on barley were present in local areas of the eastern half. Damage was slight. Numbers of first-generation SOUTHWESTERN CORN BORER (*Diatraea grandiosella*) pupating were less than in 1953 and 1954 in the central and eastern area. WEBWORMS (*Loxostege* spp.) caused local damage to young alfalfa in some of the central and northern counties. CUTWORMS were numerous in isolated areas in alfalfa and small grains as was the ARMYWORM (*Pseudaletia unipuncta*). Populations of the CHINCH BUG (*Blissus leucopterus*) were common in sorghums throughout the State. Economic damage to irrigated corn was reported from many areas. Several species of LEAFHOPPERS were common in small grains and alfalfa throughout the State. An infestation of the ENGLISH GRAIN APHID (*Macrosiphum granarium*) in wheat was reported from McIntosh County in April. WHITE GRUB larvae damaged a few isolated fields of small grain in some northern and eastern counties. Populations of the GREENBUG (*Toxoptera graminum*) were practically non-existent in Oklahoma in 1955. EUROPEAN CORN BORER (*Pyrausta nubilalis*) was reported from three new counties: Ottawa, Payne and Canadian during the year. The TARNISHED PLANT BUG (*Lygus lineolaris*) and the THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) and POTATO LEAFHOPPER (*Empoasca fabae*) were common in alfalfa. Summer populations of THRIPS (*Frankliniella occidentalis*) damaged alfalfa slightly in local areas. Low spring populations of the WINTER GRAIN MITE (*Penthaleus major*) were present in the western part. HESSIAN FLY (*Phytophaga destructor*) caused no damage in the State. Some damage to alfalfa seed production was reported from isolated areas due to CLOVER SEED CHALCID (*Bruchophagus gibbus*).

Fruit Insects

Adults of the CODLING MOTH (*Carpocapsa pomonella*) emerged in Payne County the middle of April. Due to late freezes which destroyed practically all fruit, populations were exceedingly low. The PECAN WEEVIL (*Curculio caryae*) appeared 2-3 weeks later than usual. In Payne County maximum populations collected by the jarring method reached 30-40 per tree. Large numbers of a PHALAENID (*Catocala* spp.)

were taken in light traps at Stillwater in July. Only small numbers of adults of the PLUM CURCULIO (*Contrachelus nenuphar*) survived the winter. PLUM GOUGER (*Anthonomus scutellaris*) populations were lower than in 1954. About average annual populations of the PEACH TREE BORER (*Sanninoidea exitiosa*) were found in the north central areas. *Neosteingelia texana*, a coccid attacking pecans, was reported from Tulsa and Okfuskee Counties.

Truck Crop Insects

SEED-CORN MAGGOT (*Hylemya cilicrura*) populations of spinach were greatly reduced during the latter part of March and in April. Thereafter, infestations were only moderate. Populations of the SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) infesting cucurbits were light to moderate in most areas as were populations of the STRIPED CUCUMBER BEETLE (*Acalymma vittata*). A moderate infestation of the MELON APHID (*Aphis gossypii*) occurred on watermelons in local areas of north central Oklahoma. Kingfisher County reported heavy populations in some fields. A few spinach fields in the Arkansas River Valley contained light populations of the SOUTHERN BEET WEBWORM (*Pachyzancla bipunctalis*). FALSE CHINCH BUG (*Nysius ericae*) did moderate damage to cucumbers in local areas. Infestations of the SQUASH BUG (*Anasa tristis*) were reported from watermelon and spring squash crops in Payne County and from fall squash crops in Tulsa County. TOMATO FRUITWORM (*Heliothis zea*) was observed feeding on tomatoes in many home gardens.

Cotton Insects

BOLL WEEVIL (*Anthonomus grandis*) damage was heavier than in 1954, a drought year. Weevils began puncturing squares in the southern part of the State late in June. Infestations were fairly light during July and the first part of August, but increased sharply during the latter part of August, especially in the eastern and southern parts. Damage in the western part was light although injurious infestations occurred in local areas. BOLLWORM (*Heliothis zea*) infestations were spotted with injurious infestations occurring in some fields of most areas. Although egg counts per 100 plants were high, larval populations were considerably lower due to predation by coccinellids, lacewing larvae and others. The heaviest general infestations occurred in the south central area. Bryan County had the heaviest outbreak since 1950. PINK BOLLWORM (*Pectinophora gossypiella*) infestations were considerably heavier over all areas of the State than in 1954. Gin trash and lint cleaner inspections in eastern and southwestern counties showed an infestation rate of over ten times that of 1954. FLEAHOPPER populations were present in all areas but treatment was applied only in southwestern counties. Beckham, Caddo and Washita Counties reported some damage. COTTON LEAFWORM (*Alabama argillacea*) infestations late in the season defoliated cotton over large areas . Due to the matureness of the crop, no appreciable damage was done. Injurious THRIPS (*Frankliniella* sp.) were fairly widespread in young cotton causing damage in several areas. Later populations were of no consequence. GRASSHOPPER, particularly differential grasshopper (*Melanoplus differentialis*), damaged cotton in the early summer, especially in the southern areas. One field in McCurtain County was entirely destroyed. POTATO LEAFHOPPER (*Empoasca fabae*) populations were found in all cotton producing areas, but did not build up to damaging numbers. SPIDER MITES were numerous in the north central areas. Infestations causing economic loss were few and scattered.

Insects Affecting Man and Animals

COMMON CATTLE GRUB (*Hypoderma lineatum*) - Heel fly activity was noted earlier than usual, February and March, followed by an early incidence of grub infestation. Surveys of all areas show perhaps the earliest severe infestation on record. HORN FLY (*Siphona irritans*) was abundant and caused economic loss throughout all areas. Populations of HOUSE FLY (*Musca domestica*) were heavy around untreated barns and other premises where livestock were kept. Populations in towns and cities were much higher than the previous year. A large build-up of the SCREW-WORM fly (*Callitroga hominivorax*) occurred in all areas. Serious infestations and some animal losses were reported from all sections. STABLE FLY (*Stomoxys calcitrans*) was moderate in many areas and severe in limited areas. Populations were largest during May, June and early July and dropped to a low ebb during August and increased moderately during September and early October. CATTLE LICE were common throughout the spring in the western area. Populations of the LONE STAR TICK (*Amblyomma americanum*) averaged around 25 replete females per animal in the wooded sections of eastern Oklahoma in May and June. The EAR TICK (*Otobius megnini*) was fairly common in the western area as was the LONG-NOSED CATTLE LOUSE (*Linognathus vituli*). TABANIDS were less numerous than usual. Extensive populations of MOSQUITOES, especially *Psorophora* spp., were found in early summer in the central and north central area.

Stored Products Insects

A heavier than usual insect infestation of farm-stored grain occurred in the eastern part of the State in 1955, due perhaps to favorable moisture conditions throughout the spring. A heavy infestation of RICE WEEVIL (*Sitophilus granarius*) was reported from a grain elevator in Kiowa County. Rice weevils and FLAT GRAIN BEETLE (*Laemophloeus pusillus*) were found severely infesting three bins of farm-stored grain in Delaware County. Local infestations of the ANGOUMOIS GRAIN MOTH (*Sitotroga cerealella*) occurred in milo heads in farm storage. Light infestations of BLACK CARPET BEETLE (*Attagenus piceus*), CONFUSED FLOUR BEETLE (*Tribolium confusum*), and CADELLE (*Tenebroides mauritanicus*) were found in most areas examined.

Forest, Ornamental and Shade Tree Insects

The ELM CALLIGRAPHA (*Calligrapha scalaris*) was numerous in native elms in Pottawattomie County in July. Heavy infestations of the ELM LEAF APHID (*Myzocallis ulmifolii*) were present in the northern area in early May, but had disappeared by June 15. A general scattered infestation of SMALLER EUROPEAN ELM BARK BEETLE (*Scolytus multistriatus*) was reported from the north and central areas during the summer. Statewide populations of the BLACK WIDOW SPIDER (*Latrodectus mactans*) were higher than in the past several years.

Beneficial Insects

CONVERGENT LADY BEETLE (Hippodamia convergens) and LACEWINGS (Chrysopa spp.) were the most important predators in alfalfa fields infested with the spotted alfalfa aphid. The above predators were also an important factor in the decline of corn leaf aphid populations in many areas and were extremely active in reducing bollworm infestations of cotton. Collops spp. and Orius sp. were more numerous in cotton than during the past three years.

Miscellaneous Insects

RED HARVESTER ANT (Pogonomyrmex barbatus) mating swarms were seen July 20 in the Stillwater vicinity. BLOOKSUCKING CONENOSE (Triatoma sanguisuga) was reported to have bitten three people in Stillwater. A TERMITE (Reticulitermes flavipes) has seriously damaged some oaks in Payne County by girdling, etc. The ROTTEN WOOD TERMITE (Zootermopsis angusticollis) was found in a carload of lumber from Oregon. Protoparce sp. moths were attracted to lights in fairly large numbers during May and June.

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